

REMARKS

Claims 1 - 23 are in this application and are presented for consideration. By this Amendment, Applicant has made changes to independent claims 1 and 12 to highlight the combination of features of the invention. Further, new claim 20 is submitted which includes features such as presented in allowable claim 5 and 16 but in a different form. New claim 21 presents subject matter similar to original claim 2 highlighting the important combination of the invention with dual feed channels and dual fans. New claims 22 and 23 highlight different possible embodiments using the two feed channel two fan structure. Favorable consideration of all claims is requested.

Claims 9 and 18 have been rejected as being indefinite. Applicant has now addressed the problems with these claims such that the claims no longer have the antecedent basis problem noted. Favorable consideration is requested.

Claims 1, 7, 8, 10 - 12, 17 and 19 have been rejected as being obvious based on Goldberg et al. (U.S. Patent 6,296,606) in view of Pelosi et al. (U.S. Patent 3,626,837).

The rejection is based on the position that Goldberg et al. teaches an incubator. It is stated that this incubator is hoodless. It is Applicant's position that the canopy 24 in combination with the sidewalls 146 would be considered a hooded incubator, namely an enclosed structure as shown in Fig. 4. Like many hooded incubators, the structure opens. The reference is also cited as showing a bed, a fan, heating and humidifying features as well as a channel surrounding the bed which feeds heated air.

The rejection turns to Pelosi et al. for teaching a jacketed jet air curtain. The rejection

is based on the position that it would have been obvious to one of ordinary skill in the art to implement the concept of jacketed air curtains as taught by Pelosi et al. in the incubator of Goldberg et al.

The Pelosi et al. reference provides a clean region preferably using an existing room (column 1, line 15) wherein there is a relatively low velocity of down flow air. Pelosi et al. teaches providing an upper region with a main clean air down flow region as well as a jet provided by air slots 30 to emit higher velocity air. However, unlike the present invention, the existing room has a floor and sidewalls 21. An air opening 50 is provided at the base of sidewalls 21 adjacent to the floor 22 providing a return path for air from duct 30 as well as for air from the central downward air flow. Because there is a floor, the walls may have openings as can be seen in Fig. 2 (in particular the wall does not extend annularly around the room). This is not significantly problematic as air then moves out of the room such that there is generally no inflow. Keeping the air clean and not allowing inflow from an extraneous source is the primary purpose of this setup. In this way, the floor assists in preventing problems (there is no chance for the airflow to go down below the floor with some back flow or any currents being generated back up into the room and the openings in the wall are also not a problem as air is provided under pressure.

The teachings of Pelosi et al. are different from a situation in which a hoodless incubator is to be provided, namely defining a heated region which can be controlled using a jacket jet. Unlike with Pelosi, there is no floor as a boundary. Further, the purpose of a hoodless incubator is to not have a barrier between the care giver and the patient, or at least not

have significant regions of barriers. As such, the teachings of Pelosi et al. with bounded walls and floors does not present meaningful suggestions to the person of ordinary skill in the art in the incubator art, particular the hoodless incubator art.

The Goldberg et al. reference teaches a hooded incubator in which the hood can be removed. The air directed from each side of the patient (which is generally known in the incubator art) can still be collected at an intake 44, in the case where the canopy 24 is raised and the sidewalls are brought down (in an open hood state). This structure will generally maintain the region at the desired temperature, at least for intermittent openings of the hood. This arrangement can suffer from problems of the prior art in which there is a switch over between the two states. Further, the flow of heated air does not provide a significant barrier to the influx of cold air from each of the sides. But most notably, as the heated or humidified air streams 26 and 28 are from individual outlets at the side according to the teachings of Goldberg et al., there are regions where there is not flow. These regions are necessarily more susceptible to such an influx of unconditioned air.

The invention provides situations, similar to Goldberg et al., wherein there is a patient bed. In the normal sense, this is a patient surface or bed off the floor surface. Unlike Goldberg et al., the invention relates to a hoodless incubator. As such, an important feature of the invention is the air jet with inner air condition core jet and non-condition jacket jet jacketing the core jet as well as the channel-like edge area defining an air intake which extends about the peripheral edge of the bed. This provides the closed circuit and provides the space which is substantially protected from inflow of exterior air. The closed circuit allows for circulation

including circulation of air which has already been conditioned. Further, the edge provides an intake which will have a low pressure (which will draw air via the fan connection in feed channel). This provides the curtain so that it is protected both at the top where the jet issues and at the bottom where air is sucked into the channel-like edge area. This is quite different from the teachings of Pelosi et al., which relies on the floor and walls for containment. As such, Pelosi et al. fails to provide teachings and suggestions of generating an air curtain in a situation which there is a surface edge in which air can move downwardly and outwardly of the surface, namely in which there is a bed with an outer edge with no boundary such as the wall and floor boundary of Pelosi et al..

The rejection notes the need to change the air flow of Goldberg et al. from the bottom to the top. Specifically, Goldberg et al. teaches a standard hooded incubator conditioning structure, namely heated or moisturized air flowing from the sides of the patient bed area. However, there is no teaching in Pelosi et al. to provide a bed area (in which there is no enclosing wall and in which there is a lower surface (the floor) surrounding the bed area at a much lower level) with a peripheral air intake. This is particularly an uninterrupted or annular peripheral air intake for receiving air from the conditioned air jet and curtain air jet as claimed. The prior art is at least failing to teach such an intake around the periphery of the bed (which is necessarily a raised surface off the floor) and in which there is no surrounding wall. These particular features, particularly the combination claimed, define a structure which allows for a hoodless incubator as claimed and wherein a contained space is not provided in an already enclosed space (in an already existing room) with walls and floor but instead a raised platform

is provided with a peripheral air intake edge which cooperates with the issuing jacketing jet to provide an enclosure, to provide a wall which does not restrict access to the patient by the care giver.

Each of the Goldberg et al. reference and Pelosi et al. reference lack teachings which would direct the person of ordinary skill in the art toward the combination. Goldberg et al. at least fails to teach the jacketing jet and fails to teach the peripheral edge for receiving the air flow for feeding air back to the air jet unit. Pelosi et al. at least fails to teach a cordless and wall-less platform with a surrounding edge which receives airflow for return to an air jet unit. As such, the references each fail to teach similar features such that there is a lacking of teaching of important aspects of the present combination. The other references of the prior art as a whole also fail to suggest the combination as claimed.

With regard to claim 8, Applicant notes that this air outlet is a further claimed feature, in addition to the air outlets that form the main conditioned air jet and curtain jet. As such, Applicant further requests reconsideration with regard to claim 8. Specifically, Applicant provides an arrangement wherein the intake 9 can be run, for example, to have a very low pressure so as to draw in more air required than to produce the conditioned stream 4 or the curtain jet stream 5. As such, this can be dumped at additional outlet 19. This is an advantageous technique and goes along with the feature of the invention which is clearly neither taught by either of the references, namely providing a peripheral edge of the bed which draws in or sucks in air to complete the arrangement, namely a bed platform with a surrounding jet curtain with interior conditioned air.

Claims 2 and 13 have been rejected based on the teachings of Goldberg et al. and Pelosi et al. as applied to claims 1 and 12 respectively and further in view of Howorth (U.S. Patent 4,009,647).

Howorth teaches the feature of various panels that each provide different volume rates of flow. However, another aspect besides the fan and the flow rate of Applicant's claims 2 and 13 is the provision of a second feed channel. In this way the fluid (non-conditioned air) can be different from conditioned air as well as having an intake which is not associated with the intake that is at the peripheral edge of the bed. This presents important characteristics including the ability to drive a very hard jet stream curtain at the outer regions of the bed while providing a recirculation of the air trapped within the curtain by using the channel edge area. It further opens up the possibility of having the suction of the channel edge area to be much higher than the overall output of the air conditioned core jet. The arrangement provides the ability of using ambient air for the non-conditioned jacket jet, thereby providing the ability to drive with the jacket as a jet using available non-conditioned air while allowing the conditioned air to be particularly treated, handling the stream separately. The arrangement also provides the opportunity to have two different edge area intakes, namely as per the embodiment of Figure 4. This allows an outer edge area intake to be used to feed the non-conditioned jacket jet stream with the inner edge intake being used to feed the air jet unit to form the air conditioned core jet. The jacketing jet can for the most part pass from jet outlet to edge intake while the previously conditioned air can for the most part be fed to the inner edge intake. The structure which provides this functionality is clearly neither disclosed nor suggested by the

prior art as a whole including Howorth.

Applicant requests that the Examiner consider references which have come to Applicant's attention from corresponding patent examination proceedings.

DE 197 25 498 C1 discloses an incubator system. This reference is technological background. U.S. 5,897,485 is an English language equivalent document.

U.S. 2002/0143233A1 has also been cited in the German Examination Proceeding. This is believed to be technological background. This publication has now been granted as U.S. Patent No. 6,746,394 dated June 8, 2004.

This reference was cited in the German Examination Proceedings and a German Patent has now been granted without any substantial modification based on this citation.

EP 0 291 280 A1 has been cited in the British Examination Report as technological background.

U.S. 2002/0143233A1 has been cited in the British Search Report as technological background. This publication has now been granted as U.S. Patent No. 6,746,394 dated June 8, 2004.

U.S. 3,726,204 B has been cited in the British Search Report as technological background.

The prior art as a whole fails to teach and fails to suggest the claimed combination of features. Accordingly, Applicant respectfully requests that the Examiner reconsider the rejections in view of the revised claims and in view of the discussion above.

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Enclosed: Credit Card Payment Form
PTO Form 1449
(2) References

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